Claims

[c1] What is claimed is:

1.A scanner comprising:

a housing having a front section, a rear section and a document scanning section between the front section and the rear section;

a transparent platform installed on the housing for a document to be placed on;

a scanning module installed inside the housing for scanning the document;

a motor for driving the scanning module; and

a front compensation element installed at a front end of the housing for providing a force to push the scanning module away from the front section of the housing;

wherein when the motor drives the scanning module to move backwards from the front end of the housing, the front compensation element provides the force to push the scanning module while the scanning module is in the front section so as to reduce an acceleration time of the scanning module.

[c2] 2.The scanner of claim 1 wherein when the motor drive the scanning module to move forward toward the front end of the housing, the front compensation element provides a force to reduce a deceleration time of the scanning module while the scanning module is in the front section.

[c3] 3.The scanner of claim 1 wherein the front compensation element is an elastic element.

[c4] 4.The scanner of claim 3 wherein the elastic element is a spring.

[c5] 5.The scanner of claim 1 wherein the front compensation element is a first magnetic element, the scanner further comprising a second magnetic element installed on the scanning module, a polarity of the first magnetic element facing the same polarity of the second magnetic element so that when the scanning module is in the front section, the first magnetic element and the second magnetic element repel each other.

[c6] 6.The scanner of claim 1 further comprising a sliding rod fixed between the front end of the housing and a rear end of the housing, the scanning module

sliding back and forth along the sliding rod inside the housing.

[c7] 7.The scanner of claim 6 wherein the front compensation element is installed on the sliding rod.

[c8] 8.The scanner of claim 1 wherein the motor is installed inside the housing.

[c9] 9.The scanner of claim 1 wherein the motor is installed on the scanning module.

[c10] 10.The scanner of claim 1 wherein the motor is a step motor.

[c11] 11.The scanner of claim 1 further comprising a rear compensation element installed at a rear end of the housing for providing a force to push the scanning module away from the rear section of the housing wherein when the motor drives the scanning module to move forward from the rear end of the housing, the rear compensation element provides the force to push the scanning module while the scanning module is in the rear section so as to reduce an acceleration time of the scanning module.

[c12] 12.The scanner of claim 1 wherein the motor is a servomotor.